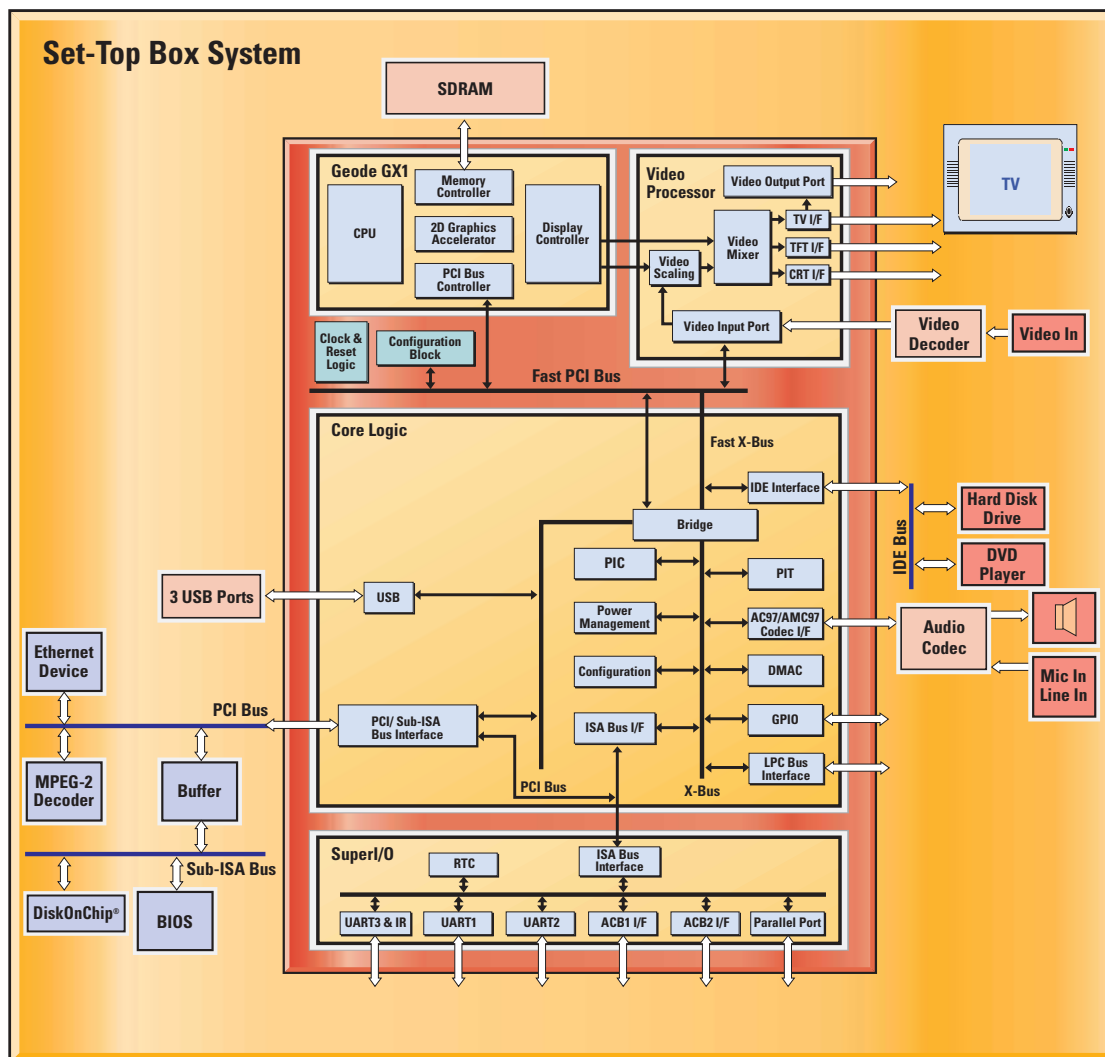


Geode™ SC1200/1201

Integrated Processor



Set-Top Box

Product Overview

Information Appliances - a new industry

As the world moves away from all-purpose computers and toward a new class of information appliances, National is leading the way with systems-on-a-chip.

These highly integrated chips vastly simplify the design, manufacture, and power requirements of a whole new class of information appliances.

By providing in-home Internet access, interactive information and electronic programming through a television set, the set-top box promises to enhance the home entertainment experience.

For the full range of devices available from National, visit our web site:

ia.national.com

Geode™ SC1200/1201 Processor

The National Semiconductor Geode SC1200/1201 processor is a member of the National Information Appliances Single Chip family of fully integrated x86 system devices. The SC1200/1201 processor includes a Geode GX1 32-bit x86 compatible processor module, a TV video processor (TV, TFT, and CRT outputs), video input port, video output port, core logic, and a SuperI/O block. Additionally, the SC1201 has Macrovision copy protection. All these features, combined with a small form factor and low power consumption, result in an ideal choice for the heart of an advanced set-top box.

x86 Architecture

The x86 architecture means Internet compatibility. With more than 300 web plug-ins written to run exclusively on x86 processors, the Geode processor family provides a web experience unattainable with non-x86 based architectures. The integrated architecture of the Geode SC1200/1201 processor simplifies system design by reducing component count, the size of the main system board, and overall system power consumption.

Technical Specifications

Primary Components

- The SC1200/1201 is based on the Geode GX1 Rev. 8.1.1 integrated processor core which combines advanced CPU performance with MMX™ support, fully accelerated 2D graphics, a 64-bit synchronous DRAM (SDRAM) interface, and an internal PCI bus controller.
- The low-power NTSC/PAL video processor has a hardware video accelerator for blending, scaling, filtering, and color space conversion. It also contains a NTSC/PAL TV encoder that has Vertical Blank Interval (VBI) data insertion capability.
- The core logic component of the Geode SC1200/1201 processor includes an IDE interface, a Universal Serial Bus (USB) interface, ACPI 1.0 compliant power management, a video input port, and an audio codec interface.
- The SuperI/O block includes three serial ports, an infrared (IR) port, a parallel port, two ACCESS.bus™ interfaces, and a Real Time Clock (RTC).

Outstanding Features

- 32-bit x86 processor, at 266 MHz, with MMX instruction set support
- 64-bit SDRAM interface
- 2D graphics accelerator
- CRT interface
- TFT interface
- High quality NTSC/PAL TV encoder with flick filter, hardware video accelerator, and capture video capability
 - Supports Composite, S-video, and YCrCb output
 - SC1201 includes *Macrovision 7.1.L1 copy protection
- CCIR-656 compliant video input port
- VESA Video Interface Port, Rev. 1.1 compliant video output port
- PCI bus controller
- USB interface, three ports, OpenHCI Rev. 1.0 specification compliant
- LPC bus interface
- Audio interface, AC97 and AMC97 Rev. 2.0 compliant
- Virtual System Architecture® (VSA™) support
- Power management, ACPI 1.0 compliant
- Two IDE channels for up to four external ATA-33 compliant devices
- 432-pin EBGA (Enhanced Ball Grid Array) package, or 481-pin TEPBGA (Thermally Enhanced Ball Grid Array) package

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* This device is protected by U.S. Patent numbers 4,631,603, 4,577,216, and 4,819,098 and other intellectual property rights. The use of Macrovision's copy protection technology in the device must be authorized by Macrovision and is intended for home and other limited pay-per-view uses only, unless otherwise authorized in writing by Macrovision. Reverse engineering or disassembly is prohibited.